

Two new shallow water triphorids and a new name in *Metaxia*  
from Florida and the West Indies \*

M. J. FABER & R. G. MOOLENBEEK

Zoölogisch Museum, P.O. Box 4766, 1009 AT Amsterdam, The Netherlands

**KEY WORDS.** Mollusca, Gastropoda, Triphoridae, *Metaxia*, *Triphora*, *Cosmotriphora*, taxonomy, West Indies.

#### INTRODUCTION

While preparing a revision of the family Triphoridae in the western Atlantic, several taxa were found that appeared to be new to science. Some of these taxa occur in shallow water, and hence they are considered to be of interest to a fairly large group of professional and amateur malacologists. Publication of the forementioned revision on western Atlantic triphorids will take some more time, and therefore two new shallow water triphorids are herein described as new.

Four other new shallow water triphorids were recently described. Two by DE JONG & COOMANS (1988), two other ones by MOOLENBEEK & FABER (1989).

Also, one of the most common and widespread West Indian *Metaxia*-species is given a new name.

#### SYSTEMATICS

*Cosmotriphora arnoldoi* nov. spec.  
(figs. 1-2)

Rice & Kornicker, 1965: 120, pl. 2 fig. 17 ("*Triphora* sp. D", Mexico, Yucatan, Campeche Bank)

#### DESCRIPTION HOLOTYPE

Shell small, slender, cyrtoconoid, with a slender, dark brown protoconch of planktotrophic type, consisting of 5 whorls. Nucleus very small (largest diameter <150  $\mu$ m), pointed, densely covered with irregularly spaced rounded granules (fig. 2), all other protoconch-whorls with fine axial riblets, and with on the 2nd and 3rd whorl one, and on the 4th and 5th two spiral ribs, both somewhat thicker than the axial ribs.

Teleoconch of 6 1/2 whorls, with 2 (from the penultimate whorl onwards 3) spiral ribs, crossed by many axial ribs, resulting in series of rounded knobs on the intersections. Sutures shallow, indistinct. On the base three additional ribs, the uppermost also clearly knobbed, the 2nd one less so, and the lowest almost smooth. Aperture spade-like, with a narrow, slitlike posterior anal notch and a short, straight and narrowly channelled anterior siphonal canal.

Teleoconch colour: glossy white, with few small irregularly spaced dark-brown dots. Length 2.8 x 0.9 mm.

#### TYPE MATERIAL

Bonaire, Playa Lechi (Holotype, ZMA 391001 leg. Fr. M. Arnoldo Broeders); Curaçao (1 paratype, ZMA 391002).

\* Studies on West Indian Marine Molluscs : 25

## OTHER MATERIAL STUDIED

Bahamas, Grand Bahama (ANSP, 1 ex.); Puerto Rico (ZMA, 1 ex.).

## ETYMOLOGY

This species is named after Friar Arnoldo Broeders (1917 - 1981), one of the first amateur conchologists who studied molluscs in the Dutch West Indies in a scientific way. His large and valuable collection of West Indian marine, fresh water and land molluscs is now deposited in the Zoological Museum of Amsterdam (ZMA), through mediation of Dr. P. Wagenaar Hummelinck (University of Utrecht).

## REMARKS

*C. arnoldoi* nov. spec. is a very characteristic species, with a very small nuclear whorl, compared to those of other West Indian triphorids. The irregularly spaced dark brown dots on the otherwise glossy white teleoconch makes this taxon very easily recognizable. Nevertheless, it might be possible to confuse this new taxon with some other "mottled" West Indian triphorids.

*Cosmotriphora decorata* (C. B. Adams, 1850) however, is much larger, with very much larger dark spots on close-set beads, with minute spiral lines inbetween. *Latitriphora albida* (A. Adams, 1851) (syn. *Triphora samanae* Dall, 1889) is also much larger, rectilinear in outline, with pale, vertically elongated spots, very close-set flattened beads and early development of spiral no. 2. Finally, *Cosmotriphora olivacea* (Dall, 1889) (= "*Triphora ornata* Deshayes, 1832" auctt.) may look very similar (especially small specimens), but is more vividly and extensively coloured, with the upper row of beads always brown or purple with occasionally a white-spotted bead, and the lower row always completely white or yellowish.

All these three taxa, which are much more common, and perhaps also more widespread than *Cosmotriphora arnoldoi* nov. spec., do have planktotrophic larval shells with a consistently larger nucleus (> 200 µ).

Apparently, *C. arnoldoi* occurs throughout a large part of the West Indies. This is not surprising, considering its planktotrophic larval development. However, it is rare in collections.

Apart from the localities mentioned above, *C. arnoldoi* nov. spec. is known from Yucatan Bank (RICE & KORNICKER, 1965).

*Triphora calva* nov. spec.  
(figs. 3-4)

## DESCRIPTION HOLOTYPE

Shell small, conoid. With about 1 nuclear (protoconch) whorl (of non-planktotrophic type), and about 8 postnuclear (teleoconch) whorls. Protoconch smooth (fig. 4), teleoconch-sculpture emerging gradually, starting with spiral no. 3. From the third whorl onward, spiral no. 1 and axial ribs appear, giving the shell a reticulated pattern. Spiral 2 emerges on the sixth whorl. On the last whorl, all three spirals are of equal strength, crossed by about eighteen axial ribs of the same strength, producing squarish knobs on their intersections.

Base with three almost smooth spirals. Aperture rather large, pointed above, forming an anal notch, and below, forming a wide anterior siphonal canal. No additional spirals arise on the outer lip.

Colour all brown. Length 3.1 x 1.2 mm.

## TYPE MATERIAL.

Florida, Key Biscayne (holotype, WH stat. 1410, ZMA 391003); Florida, Elliot Key (1 paratype, ZMA 391004); Florida, Sanibel Island (2 paratypes, ZMA 391005).

## OTHER MATERIAL STUDIED

Bahamas, Bimini (ANSP, 3 ex.), South Bimini (ANSP, 4 ex.), Grand Bahama (ANSP, 20 ex.); Mexico, Quintana Roo, Cancún (ANSP, 2 ex.); Belize, Congrejo Cay (ANSP, 2 ex.)

## ETYMOLOGY

*Calva*, from the Latin "calvus", meaning bald; because of its peculiar smooth protoconch whorls.

## REMARKS

It is quite a surprise to find an undescribed species with such a characteristic shell in Florida, an area so extensively sampled by marine malacologists. Apparently this species is restricted to the northernmost parts of the tropical Caribbean faunal province.

The very peculiar smooth protoconch easily sets this taxon apart from any other shallow-water triphorid. Broken shells, lacking the protoconch, may be confused with *T. modesta* (C. B. Adams, 1850), a species having a planktotrophic development, and which is also all-brown.

*Metaxia excelsa* nom. nov.

C. B. ADAMS, 1850: 120 (*Cerithium exile*, "Jamaica"; non Eichholz, 1829)

? W. H. DALL, 1889: 256 - 257 (*Cerithiopsis metaxae* var. *taeniolata*; "...off the Carolina coast, in 15-52 fms.")

W. J. CLENCH & R. D. TURNER, 1950: 279 - 280, Pl. 38, fig. 8 (*Cerithium exile*, holotype)

K. M. DE JONG & H. E. COOMANS, 1988: 51

This well-known species is probably the only Caribbean member of this genus with a planktotrophic larval shell. If so, it cannot be confused with the other Caribbean metaxiids known to us, for all of them have protoconchs indicating direct, or lecithotrophic development.

Unfortunately, the name *Cerithium exile* C. B. Adams, 1850 is preoccupied by *C. exile* Eichholz, 1829.

*Cerithiopsis metaxae* var. *taeniolata* Dall, 1889, from "off the Carolina coast", might be the same. DALL (1889) compares it with "*Cerithiopsis metaxae* Della Chiaje" (= *Metaxia metaxae*, fide BOUCHE, 1985), a congener with planktotrophic larval development from the eastern Atlantic. However, ODE (1989: 105) mentioned four different morphs (differing in colour and shape) from deeper water in the NW Gulf of Mexico. Therefore, the name *taeniolata* cannot be applied with certainty to *M. exilis* (C. B. Adams). Moreover, DALL (1889) did not indicate a type specimen, and there seems to be no original specimen left in USNM (see DALL, 1889, and pers. obs. M.J.F.).

All this taken into consideration, and as there seems to be no other name available, we propose the name *Metaxia excelsa* nom. nov. for Adams' taxon.

ETYMOLOGY

"*excelsus*", adj.; latin for both "elevated" (for the planktotrophic protoconch) and "eminent" (for being the West Indian metaxiid most often mentioned and figured). Similarity to its former name is considered a pleasant coincidence.

Acknowledgements

Thanks are due to Drs. K. J. Boss and S. P. Kool of the Museum of Comparative Zoology (Harvard), and Ms. Andrea Garback and Dr. Gary Rosenberg (ANSP), for allowing to study type material in their respective institutes.

Figs. 1-4.

figs. 1-2. *Cosmotriphora arnoldoi* n.sp.:

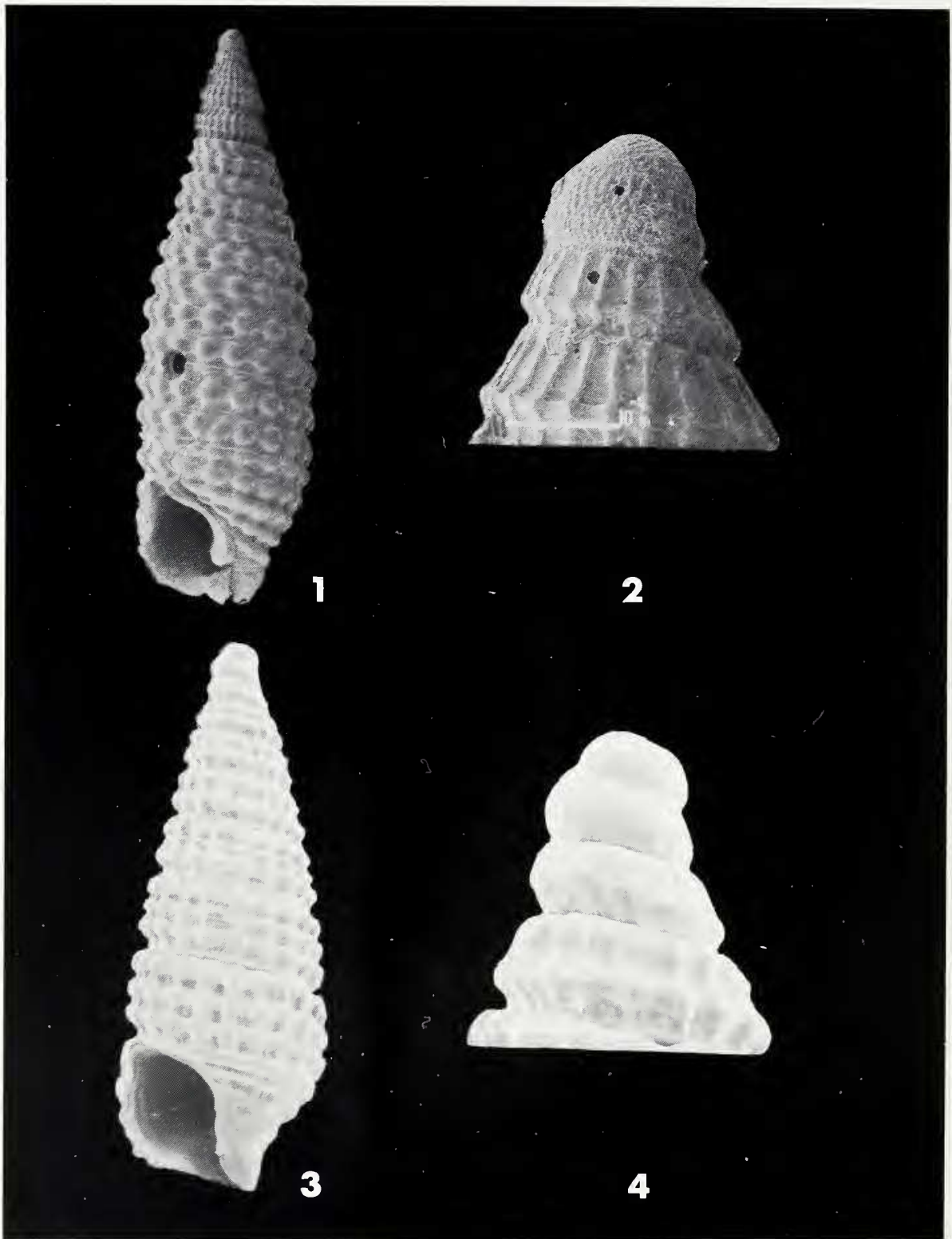
fig. 1. Bonaire, Playa Lechi, holotype (ZMA Moll. 3.91.001); 2.8 x 0.9 mm;

fig. 2. Protoconch of holotype.

figs. 3-4. *Triphora calva* n.sp.:

fig. 3. Florida, Key Biscayne, holotype (ZMA Moll. 3.91.004); 3.1 x 1.2 mm;

fig. 4. Protoconch of holotype.



## REFERENCES

ADAMS, C. B., 1850. see: CLENCH & TURNER (1950)

CLENCH, W. J. & R. D. TURNER, 1950. The Western Atlantic Marine Mollusks described by C. B. Adams. *Occ. Pap. Moll.*, 1 (15): 233-403

DALL, W. H., 1889. Reports on the results of dredging ... in the Gulf of Mexico, (1877 - 78) and the Caribbean Sea (1879 - 1880), by the United States Coast Survey steamer "Blake" ... 29. Reports on the Mollusca 2. *Bull. Mus. Comp. Zool.*, 18: 1 - 492

JONG, K. M. DE & H. E. COOMANS, 1988. Marine Gastropods from Curaçao, Aruba and Bonaire. *Stud. Fauna Cur.*, 69: 1 - 261

MOOLENBEEK, R. G. & M. J. FABER, 1989. Two new *Triphora* species from the West Indies. *Basteria*, 53 (4 - 6): 77 - 80

ODE, H., 1989. Distribution and records of the marine Mollusca in the northwest Gulf of Mexico (A continuing monograph: Superfamily Triphoracea). *Texas Conchologist*, 25 (3 - 4): 104 - 120

RICE, W. H. & L. S. KORNICKER, 1965. Mollusks from the deeper waters of the northwestern Campeche Bank, Mexico. *Publ. Inst. Mar. Sci. Univ. Texas*, 11: 108 - 172

